What I claim is,

1. A multipoint lump homogenizing optical system comprising:

a homogenizer diffraction optical element (DOE) converting a laser beam having central higher energy density and peripheral lower energy density into a quasi-uniform power distribution beam represented by a 20th-100th order supergaussian function at a definite focus;

an aperture mask being laid at the focus of the homogenizer DOE and having a window wider than the quasi-uniform homogenized supergaussian beam, a diverging diffraction optical element (DOE) for dividing the homogenized supergaussian beam into a plurality of supergaussian beams; and

a lens for converging the branched supergaussian beams on multipoints defined on an image plane laid at a focus of the lens.

2. The multipoint lump homogenizing optical system according to claim 1, wherein the homogenizer DOE converts a Gaussian laser beam into a quasi-uniform, round-sectioned beam represented by a supergaussian function $\exp\{-2(r/a)^m\}$ (order m=20-100) and the aperture mask has a round window of a diameter 2c which is larger than a diameter 2a of the supergaussian beam ($2a < 2c$).

3. The multipoint lump homogenizing optical system according to claim 1, wherein the homogenizer DOE converts a Gaussian laser beam into a quasi-uniform, rectangular section beam represented by a supergaussian function $\exp\{-2(r/a)^m-2(y/b)^n\}$ (order m=20-100, n=20-100) and the aperture mask has a rectangular window of a size 2c×2d which is larger than a rectangular section 2a×2b of the supergaussian beam ($2a < 2c$, $2b < 2d$).

4. The multipoint lump homogenizing optical system according to claim 2, wherein the diameter 2c of the round window of the aperture mask is smaller than twice the diameter 2a of the round section of the beam passing the window.

5. The multipoint lump homogenizing optical system according to claim 3, wherein the size 2c×2d of the window of the aperture mask is smaller than twice the size 2a×2b of the section of the beam passing the window.

6. The multipoint lump homogenizing optical system according to claim 4, wherein the diameter of the window of the aperture mask is smaller than a diameter of a region of noise appearing at peripheries of the supergaussian beam.

7. The multipoint lump homogenizing optical system according to claim 5, wherein the size of the window of the aperture mask is smaller than a size of a region of noise appearing at peripheries of the supergaussian beam.

8. The multipoint lump homogenizing optical system according to claim 3, wherein the rectangular section of the beam made by the homogenizer DOE has a large a/b ratio and the aperture mask prepares a linear sectioned supergaussian beam.